

Application No.: 10/802,702
Amendment Dated: June 9, 2008
Reply to Office Action of: March 17, 2008

MAT-7927US1

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Previously Presented) A surface lighting device having a light source and a light-guide-member, said light-guide-member comprising:

an incident plane for receiving light emitted from said light source and for producing incident light;

a light-guiding-section for receiving said incident light and for producing guided light; and

a light-emitting-section for receiving said guided light and for producing emitted light,

wherein a length of shorter side of said light-guiding-section is not more than 8 mm, an area of said light-emitting-section is not less than 500 mm², a ratio of minimum luminance vs. maximum luminance of said light-emitting-section is not less than 0.3, an average luminance of said light-emitting-section ranges from 1 cd/m² to 200 cd/m², and a luminance change amount per unit length is not more than (average luminance) × 100 cd/m³.

2. (Original) The surface lighting device as defined in Claim 1 further comprising a barrier plate for blocking the light emitted from entering directly to said light-guide-member.

3. (Original) The surface lighting device as defined in Claim 2 wherein said barrier plate has a reflecting function.

4. (Original) The surface lighting device as defined in Claim 2 further comprising a holder for accommodating said light-guide-member, wherein said holder and said barrier plate are unitarily molded.

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5. (Original) The surface lighting device as defined in Claim 2 further comprising a reflecting member for reflecting the light emitted toward outer circumference of said light-guiding-section.

6. (Original) The surface lighting device as defined in Claim 5 wherein said holder, said barrier plate and said reflecting member are unitarily molded.

7. (Original) The surface lighting device as defined in Claim 1 wherein the emitted light reflects on outer circumference of said light-guiding-section, then travels to said light-emitting-section.

8. (Original) The surface lighting device as defined in Claim 1 further comprising a light scattering layer disposed on a face opposite to said light-emitting-section.

9. (Original) The surface lighting device as defined in Claim 1 wherein said light-emitting-section has a light-scattering-member thereon.

10. (Original) The surface lighting device as defined in Claim 1 wherein a half width of a light emitting wavelength of said light source is not more than 50 nano-meter.

11. (Original) The surface lighting device as defined in Claim 1 wherein said light source is a light-emitting-diode having a cylindrical lens.

12. (Withdrawn) The surface lighting device as defined in Claim 1 wherein said light source is disposed on a corner of said light-guide-member.

13. (Withdrawn) The surface lighting device as defined in Claim 12 wherein said light-guiding-section has a reflecting face.

14. (Previously Presented) A portable terminal having a display device and a surface lighting device including a light source and light-guide-member, said light-guide-member comprising:

a light inlet for receiving light from said light source and for producing received light;

a light-guiding-section for receiving said received light and for producing guided light; and

a light-emitting-section for receiving said guided light and for producing emitted light, wherein;

a ratio of minimum luminance of emitted light and maximum luminance of said emitted light is equal to or greater than 0.3;

an average luminance of said emitted light is in a range of 1 cd/m² to 200 cd/m², and

a change in luminance of said emitted light per unit length is less than or equal to said average luminance x 100 cd/m³,

wherein a length of a side of said light-guiding-section is not more than 8 mm, and an area of said light-emitting-section is not less than 500 mm².

15. (Previously Presented) A surface lighting device having a plurality of light sources and a light-guide-member comprising:

a light inlet for receiving light from said plurality of light sources and for producing received light;

a light-guiding-section for receiving said received light and for producing guided light; and

a light-emitting-section for receiving said guided light and for producing emitted light, wherein,

a ratio of a minimum luminance of said emitted light and maximum luminance of said emitted light is equal to or greater than 0.3;

an average luminance of said emitted light is in a range of 1 cd/m² to 200 cd/m², and

a change in luminance of said emitted light per unit length is less than or equal to said average luminance $\times 100 \text{ cd/m}^3$,

wherein a length of a side of said light-guiding-section is not more than 8 mm, and an area of said light-emitting-section is not less than 500 mm².

16. (Withdrawn) The surface lighting device as defined in Claim 15 wherein said light source is disposed on a corner of said light-guide-member, and an approximation line connecting respective emitting centers of said light emitting elements is disposed to form approximately right angles with a diagonal line of said light-guide-member.

17. (Withdrawn) The surface lighting device as defined in Claim 15 wherein said light source is disposed on a corner of said light-guide-member, and an approximation line connecting respective emitting centers of said light emitting elements is disposed to form an angle with a longer side of said light-emitting-section, said angle being greater than another angle formed by the approximation line and a shorter side of said light-emitting-section.

18. (Withdrawn) The surface lighting device as defined in Claim 15 wherein the approximation line is disposed to separate said light-emitting-section into two approximately equivalent areas.

19. (Withdrawn) The surface lighting device as defined in Claim 15, wherein the light travelling in a third direction is guided from around a center of an end face of said light-guide-member into said light-guide-member wherein a first direction runs along a main light-axis of said light source, and a second direction runs along a light axis toward said light-emitting-section from said light-guiding-section, the third direction runs in a plane other than a plane including the first and the second directions,

wherein an approximation line connecting respective emitting centers of said light-emitting-elements is disposed to be approximately parallel to the second direction.

20. (Withdrawn) The surface lighting device as defined in Claim 15, wherein said light source comprises:

an insulated substrate to be mounted with said light emitting elements;

a light-transparent member disposed on said substrate to cover said light emitting elements; and

an electrode disposed on at least an upper face of said substrate.

21. (Withdrawn) The surface lighting device as defined in Claim 15, wherein said respective light emitting elements is disposed at approximately the same distance from said light-guide-member.

22. (Withdrawn) The surface lighting device as defined in Claim 15, wherein said light emitting elements change color tones by varying electric current flowing therethrough.

23.-52. (Cancelled).

53. (Previously Presented) The device according to claim 14, wherein said light-guiding-section has a length equal to or less than 8 mm.

54. (Previously Presented) The device according to claim 14, wherein said light-emitting section has an area greater than or equal to 500 mm².

55. (Previously Presented) The device according to claim 15, wherein said light-guiding-section has a length equal to or less than 8 mm.

56. (Previously Presented) The device according to claim 15, wherein said light-emitting section has an area greater than or equal to 500 mm².

57. (New) The device as defined in claim 1 wherein said light-guiding-section has a plurality of scattering dots disposed on a face opposite to said light-discharging-section, and an area of each scattering dot becoming greater at a longer distance from said light source.

58. (New) The portable terminal as defined in claim 14 wherein said light-guiding-section has a plurality of scattering dots disposed on a face opposite to said light-discharging-section, and an area of each scattering dot becoming greater at a longer distance from said light source.

59. (New) The device as defined in claim 15 wherein said light-guiding-section has a plurality of scattering dots disposed on a face opposite to said light-discharging-section, and an area of each scattering dot becoming greater at a longer distance from said light source.

60. (New) The device according to claim 1, wherein the light-emitting-section includes a plurality of scattering dots configured to scatter light incident thereon, the scattering dots formed from a material selected from the group consisting of (1) a transparent binder mixed with white particles, (2) the transparent binder mixed with glass beads having a refractive index greater than the transparent binder and (3) the transparent binder mixed with air bubbles.

61. (New) The portable terminal according to claim 14, wherein the light-emitting-section includes a plurality of scattering dots configured to scatter light incident thereon, the scattering dots formed from a material selected from the group consisting of (1) a transparent binder mixed with white particles, (2) the transparent binder mixed with glass beads having a refractive index greater than the transparent binder and (3) the transparent binder mixed with air bubbles.

62. (New) The device according to claim 15, wherein the light-emitting-section includes a plurality of scattering dots configured to scatter light incident thereon, the scattering dots formed from a material selected from the group consisting of (1) a transparent binder mixed with white particles, (2) the transparent binder mixed with glass beads having a refractive index greater than the transparent binder and (3) the transparent binder mixed with air bubbles.

63. (New) The portable terminal according to claim 14 further comprising a barrier plate for blocking the light emitted from entering directly to said light-guide-member.

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64. (New) The device according to claim 15 further comprising a barrier plate for blocking the light emitted from entering directly to said light-guide-member.

65. (New) The device as defined in claim 2 wherein an inner face of said barrier-plate is V-shaped.

66. (New) The portable terminal as defined in claim 63 wherein an inner face of said barrier plate is V-shaped.

67. (New) The device as defined in claim 64 wherein an inner face of said barrier plate is V-shaped.